

order to inhibit or kill CEA or CEA epitopes expressing tumor cells. Patients may then be reimmunized with agonist peptide preferably in adjuvant.

5           Generally, between about  $1 \times 10^5$  and  $2 \times 10^{11}$  cytotoxic T cells per infusion are administered in, for example, one to three infusions of about 200 to about 250 ml each over a period of 30 to 60 minutes. After completion of the infusions, the patient may be treated with a biological  
10 response modifier such as interleukin 2 (IL-2). In the case of IL-2, recombinant IL-2 is administered intravenously in a dose of 720,000 IU per kilogram of body weight every eight hours. After adoptive transfer of the antigen specific cytotoxic T cells into the patient, the patient may be  
15 additionally treated with the agonist peptide used to prime the cytotoxic T cells, to further expand the T cell number *in vivo*.

The invention encompasses a DNA sequence and variants thereof which encode an agonist peptide.

20           In one embodiment the DNA sequence encoding the agonist peptide is a variant of the DNA sequence comprising:

TAC CTT TCG GGA GCG AAC CTC AAC CTC (SEQ. ID No: 6)  
Tyr Leu Ser Gly Ala Asn Leu Asn Leu (SEQ. ID No: 1).

25           One variant of SEQ. ID No: 6 includes but is not limited to a codon ATC (Ile) in place of the codon, CTC (Leu at position 7) (Seq. ID No: 11). Another variant of SEQ. ID No: 6 includes but is not limited to a codon, TGT (Cys) in place of the codon, AAC (Asn at position 6) (Seq. ID No:  
30 12).